PROCEDURES MANUAL
FOR
DISTANCE EDUCATION MASTER’S DEGREE

School of Mechanical Engineering
Purdue University

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1. INTRODUCTION

This manual is intended to answer common questions distance education graduate students have concerning their program of study, Graduate School operations, the graduate program in Mechanical Engineering, and services provided by the ME Graduate Office. It provides information on setting up a program of study, acceptable scholastic performance, and various requirements that must be met to receive the Master’s degree.

Special situations will certainly arise which are not addressed here. We welcome the opportunity to discuss these problems with you. Timing is often an important factor, and early contact with the ME Graduate Office can sometimes save much effort and time for students and faculty alike.

Students can monitor their university status and information pertaining to their degree progress through their confidential myPurdue (formerly SSINFO) account. All address, registration, and tuition information is available on myPurdue. Following admission, all students should set up an account at http://www.myPurdue.purdue.edu/.

2. MOST IMPORTANT ACTIONS FOR COMPETING THE DEGREE

FIRST SEMESTER:

- Contact your temporary advisor to discuss your course selection before registering.
- Complete the registration process according to directions from the site coordinator or Purdue’s Division of Engineering Professional Education Office.
- Choose a Major Professor and Advisory Committee before developing the Plan of Study. (See guidelines in Section 4.)
- Formalize a Plan of Study (POS) in consultation with your Major Professor and Advisory Committee members. The POS must be submitted before completing nine hours of coursework (including transfer and pre-admission hours). (See Section 6.)

FINAL SEMESTER

- If you have taken courses other than those on your Plan of Study, submit a Change to the Plan of Study no later than the beginning of the final semester of graduate study. (See details in Section 6.)
- Indicate your intention to graduate at the time of registration.
- The ME Candidate Packet with a list of applicable deadlines for graduation for non-thesis option students is available on the ME website at https://engineering.purdue.edu/ME/Academics/Graduate/currgrad.html

Note: Students pursuing thesis-option Master’s Degree should contact the ME Graduate Office for the additional requirements and the procedures that need to be followed.
3. REGISTRATION

Students who are beginning their graduate program in Mechanical Engineering should contact their temporary advisor (assigned at the time of admission) to discuss a tentative plan of study and to choose courses for registration in the first semester. Students are eligible to register after they receive a formal letter of admission. An email from the Graduate School will provide information to access the official admittance letter. To avoid a late registration fee, students are to register before the deadline date set by Engineering Professional Education. A Plan of Study, including Major Professor and Advisory Committee, must be approved before the student has completed nine hours of coursework (including transfer and pre-admission hours).

Off-campus students will register through the Purdue Banner system on the Purdue’s home web page. The fees for off-campus courses will also be assessed through the Purdue Bursar. You should contact Engineering Professional Education directly if there are specific arrangements in handling your fees.

Registration and fee information is available from the Engineering Professional Education Office.

4. MAJOR PROFESSOR AND ADVISORY COMMITTEE

All students are assigned a temporary advisor when they are admitted to the ME graduate program. Students are not automatically assigned a Major Professor. Off-campus graduate students are expected to choose a Major Professor before completing nine hours of coursework at Purdue. Students may request their temporary advisor become their major professor or seek his/her input on choosing a Major Professor. Additionally, they may contact one of the professors teaching courses they plan to take to serve as their Major Professor.

Students should contact the professor, explain their reason for selecting the professor, and then ask permission to have the professor serve as the Major Professor. The responsibility of the Major Professor is to guide the student through the program; assisting with course selections, advisory committee selection, and advice on all academic matters including any program difficulties the student may encounter.

After the student has chosen a Major Professor, the Advisory Committee should be established. Normally the Advisory Committee consists of three members: the Major Professor, a second professor who is interested in the student’s major field (usually from ME), and a third professor representing a related area (often, but not necessarily, from outside of ME). Again, students need to contact professors and to explain why they are asking the professor to be on their advisory committee. The Advisory Committee is formally established only when the Plan of Study (see Section 6) is submitted by the student and approved by the Graduate School.
5. NON-THESIS M.S. DEGREE AND TITLES OF DEGREES AWARDED

The non-thesis option requires 30 credit hours of course work, 6 credits of which may be completed as independent project work (ME 59700 or ME 69700). The more predictable time frame for completion of course work required by the non-thesis option allows students to more accurately plan a graduation date. On completion of the course work, the student needs to be certified by the Advisory Committee of having met all conditions for completion of the degree. For this certification, an Advisory Committee may expect the student to appear in, and pass, an oral examination.

Students who have completed a BSME from an ABET accredited school are eligible to receive the degree of Master of Science in Mechanical Engineering (MSME). Students who have completed a BS in an area of engineering other than ME are eligible to receive the Master of Science in Engineering (MSE degree). Students whose undergraduate degree is in disciplines other than engineering are eligible to receive the Master of Science (MS degree).

6. PLAN OF STUDY

Students pursuing the M.S. degree are required to submit a Plan of Study (POS) before completing nine hours of coursework (including transfer and pre-admission hours). The procedure should be completed after the student has discussed academic goals with a faculty member and established a Major Professor and has also established an Advisory Committee. (See Section 4).

After the student has created myPurdue (formerly SSINFO) account (see Introduction), the *Plan of Study can be generated by selecting the link Graduate Student Database under the heading, Academic. The steps necessary for the process are listed and self-explanatory. Students may create a draft of the POS and later return to it for completion. The POS address cannot be bookmarked. *(currently the plan of study is still available through SSINFO).

A Plan of Study consists of a group of courses in the student’s “Primary Area” and other courses in “Related Areas.” All courses on the POS for a Mechanical Engineering Master’s degree must have quantitative and technical content. Courses in the primary area should show a reasonably close relation to the core subject. For example, if the student’s primary area is heat transfer, it might include courses in heat transfer, mass transfer, fluid mechanics, and thermodynamics. Courses in the primary area can also come from the schools or departments other than Mechanical Engineering.

Courses in related areas are outside of the primary area but still contribute to the M.S. These courses may come from ME or from other schools or departments. However, courses from management are not considered to be quantitative or technical in content. All plans must contain six credit hours in applied mathematics, usually as a related area. At least three of these credit hours must be taken from the Mathematics Department. A list of commonly used math courses follows at the end of this document.
All courses will be graduate level (50000 or 60000 numbers). Appropriate graduate level courses taken during an undergraduate program at Purdue may be used on a Plan of Study, provided they were not used to meet bachelor’s degree requirements and provided the grades were satisfactory (A or B). The following rules apply when using post baccalaureate or transfer courses on the Plan of Study:

- All post baccalaureate courses used on a ME Plan of Study must have a grade of B or better.
- All non-thesis options master’s degree students must complete a minimum of 18 credit hours of course work after they are formally admitted to the degree program in the School of Mechanical Engineering.
- Courses taken during the semester when a student is admitted to degree-seeking status can be used as a part of the above requirement.
- A maximum of nine (9) credit hours of graduate course work may be transferred from another institution or degree awarding program. Completed courses must have a grade of B or better and have advance approval by the student’s advisory committee and the ME Graduate Chair.

When completing the Plan of Study, students should choose descriptive terms for the Primary area and the Related areas from the following list:

- ACOUSTICS AND NOISE CONTROL
- BIOENGINEERING
- COMBUSTION
- DESIGN
- FLUID MECHANICS AND PROPULSION
- HEAT TRANSFER
- HEATING, VENTILATING, AID CONDITIONING AND REFRIGERATION
- MANUFACTURING AND MATERIALS PROCESSING
- MECHANICS AND VIBRATION
- NANOTECHNOLOGY
- SYSTEMS, MEASUREMENT, AND CONTROL

After Graduate School approval, the courses listed on the POS must be completed before certification for graduation can be granted. Changes to the approved POS may be completed through the myPurdue account. This process may be used to change Advisory Committee members, to delete or add courses, or to change the choice of non-thesis or thesis options. Courses may not be removed from the POS after a grade has been received. All such changes must be initiated only after consultation and approval by the Major Professor.
7. SCHOLASTIC REQUIREMENTS

The basic requirements for completing the Master’s degree are:

- Complete all courses on the approved Plan of Study
- Attain a minimum cumulative index of 3.0 for graduation.
- Complete thirty credit hours in course work. (See Section 6).

Only grades of A, B, and C are acceptable in fulfilling Graduate School requirements on a Plan of Study. Pass/no pass grades are not acceptable in fulfilling degree requirements.

The Mechanical Engineering Graduate Committee reviews graduate student performance each semester and sends warning letters to those students not maintaining a 3.0 cumulative index. A warning letter may set forth specific conditions to be met within a specified time period. Unsatisfactory course work, if continued, may lead to dismissal from the Mechanical Engineering Graduate Program. A student whose cumulative index is below 2.75 after twelve or more credit hours of course work have been completed will be automatically dropped from the Program.

Graduate Committee action on dismissals from the Mechanical Engineering graduate program (resulting from failure to meet the index requirements) will take place after grade reports are received following the end of an academic term. The Graduate Committee will determine the effective date of dismissal. Normally it will be approximately three weeks after voting on dismissal that it becomes effective, but in some cases, it may be extended to the end of the term. Course registration will not be allowed after dismissal takes effect, and registration for the current term will be canceled if classes have already begun.

If a student and the Advisory Committee feel that special circumstances are involved, they may appeal a dismissal by making a written petition to the Graduate Committee. A student whose Advisory Committee does not support an appeal may petition the Graduate Committee directly. An appeal will be successful only if evidence is presented to show that unusual circumstances were responsible for the student’s poor performance and credible corrective action has been taken or proposed to assure that a reasonable chance exists for the student to successfully complete the program.
School of Mechanical Engineering
Math Courses for the Master’s and Ph.D. Plans of Study

Master’s degree programs, requires a minimum of 6 hours. At least one course must be from MA 50000 or 60000 courses.

Ph.D. degree program requires a minimum of 9 hours. At least two courses must be from MA 50000 or 60000 courses.

Commonly Used Math Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA 51000</td>
<td>Vector Calculus</td>
</tr>
<tr>
<td>MA 51100</td>
<td>Linear Algebra with Applications</td>
</tr>
<tr>
<td>MA 52000</td>
<td>Boundary Value Problems of Differential Equations</td>
</tr>
<tr>
<td>MA 52100</td>
<td>Introduction of Optimization Problems and Numerical Analysis</td>
</tr>
<tr>
<td>MA 52300</td>
<td>Introduction to Partial Differential Equations</td>
</tr>
<tr>
<td>MA 52500</td>
<td>Introduction to Complex Analysis</td>
</tr>
<tr>
<td>MA 52700</td>
<td>Advanced Mathematics for Engineers and Physicists I</td>
</tr>
<tr>
<td>MA 52800</td>
<td>Advanced Mathematics for Engineers and Physicists II</td>
</tr>
<tr>
<td>PHYS 60000</td>
<td>Methods of Theoretical Physics I</td>
</tr>
<tr>
<td>PHYS 60100</td>
<td>Methods of Theoretical Physics II</td>
</tr>
<tr>
<td>A&amp;AE 60300</td>
<td>Theoretical Methods in Engineering Science I</td>
</tr>
<tr>
<td>A&amp;AE 60400</td>
<td>Theoretical Methods in Engineering Science II</td>
</tr>
</tbody>
</table>

Non-Math courses that may substitute for the additional math course requirements

Approved ME courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>ME 58100</td>
<td>Numerical Methods in Mechanical Engineering</td>
</tr>
<tr>
<td>ME 68100</td>
<td>Finite &amp; Boundary Element Methods</td>
</tr>
<tr>
<td>ME 61400</td>
<td>Computational Fluid Dynamics</td>
</tr>
<tr>
<td>ME 60800</td>
<td>Numerical Methods in Heat, Mass and Momentum Transfer</td>
</tr>
</tbody>
</table>

Approved courses from other schools

<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>CE 59500</td>
<td>Finite Elements in Elasticity</td>
</tr>
<tr>
<td>ECE 60000</td>
<td>Random Variables and Signals</td>
</tr>
<tr>
<td>ECE 60200</td>
<td>Lumped System Theory</td>
</tr>
<tr>
<td>STAT 51400</td>
<td>Design of Experiments</td>
</tr>
<tr>
<td>STAT 51100</td>
<td>Statistical Methods</td>
</tr>
<tr>
<td>STAT 51200</td>
<td>Applied Regression Analysis</td>
</tr>
<tr>
<td>STAT 52200</td>
<td>Sampling &amp; Survey Techniques</td>
</tr>
<tr>
<td>A&amp;AE 51200</td>
<td>Computational Aerodynamics</td>
</tr>
<tr>
<td>A&amp;AE 51600</td>
<td>Computational Fluid Mechanics</td>
</tr>
<tr>
<td>A&amp;AE 55300</td>
<td>Elasticity in Aerospace Engineering</td>
</tr>
<tr>
<td>A&amp;AE 55800</td>
<td>Finite Element Methods in Aerospace Structures</td>
</tr>
</tbody>
</table>

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